'In' Box

An inevitable by-product of the growth of information technology in higher education is a corresponding need for a special kind of nontechnical information: ideas and tips about who is doing what, and which colleges and other institutions may already have resources, projects, and expertise that others could share.

Enter Gisela Hoelzl, a self-described "walking Rolodex," and the Communications Consortium, Inc., of which she is the executive director and—so far—sole employee. Founded in 1981 but just now getting fully under way, the consortium is an independent nonprofit group of about 50 colleges, universities, libraries, museums, public broadcasters, and other nonprofit organizations—mostly in the Boston area—that is trying to become a model network for the exchange of information about communications technology.

It has a three-year grant of $133,100 from the federal Fund for the Improvement of Postsecondary Education, and is otherwise supported by dues (which for 1983-84 will range up to $400 a year, depending on the size of members' budgets).

Ms. Hoelzl says that today the consortium is unique, although she expects that similar ventures will follow. For information on membership (which is not restricted geographically) and a copy of the newly published *Resource Catalog / 1983* ($20 for members and $50 for nonmembers; add $1 for postage and handling), write to The Communications Consortium, Room 9-323, Massachusetts Institute of Technology, Cambridge, Mass. 02139; (617) 253-7432.

■

What is the fairest way to determine yearly raises for the members of an academic department? Assuming that the department has a given sum for all salary increments and that it wants to base them on merit, should the raises be:

▶ The same percentage for all those with equal merit and experience?

▶ The same amount for all those with equal merit and experience? Or,

▶ Relatively larger amounts for those earning less than others with the same merit and experience?

A study by Michael H. Birnbaum, professor of psychology at the University of Illinois at Urbana–Champaign, found that most faculty members and students tended to perceive salary equity in terms of how much equally deserving people are paid overall, rather than how large their raises may be in a given year.

The study's participants, about 20 faculty members and nearly 200 undergraduates in psychology at Illinois, thus seemed to prefer giving larger raises to those with lower salaries, Mr. Birnbaum says, so that eventually those with equal merit would be receiving equal pay.

The psychologist discussed the study and its results in a recent issue of the *Journal of Applied Psychology*. Requests for reprints of his article may be sent to him at the Department of Psychology, University of Illinois, 603 East Daniels Avenue, Champaign, Ill. 61820.

Personal & Professional

TIAA-CREF Pensions Challenged Anew; Time for 'Reassessment,' Companies Say

By ROBERT L. JACOBSON

WASHINGTON

In a widely circulated attack on higher education's principal retirement program, an academic expert on pensions and investment policy has advised colleges and universities to offer their employees alternatives to pension plans administered by the Teachers Insurance Annuity Association and the College Retirement Equities Fund.

The expert, Roy A. Schotland, professor of law at the Georgetown University Law Center, made his recommendation in a 14-page analysis of T.I.A.A. and C.R.E.F. in the May issue of *Business Officer*, the monthly magazine of the National Association of College and University Business Officers.

He charged that the sister pension companies, through "inferior" investment performance and a "lack of flexibility," were reducing both the retirement security of participants and the effectiveness of payments that colleges make on their behalf.

He said the companies, whose combined assets exceed $25-billion, have a "monopoly in higher education [that] has not served participants well."

About 350,000 faculty members and other employees at about 1,500 colleges and universities participate in T.I.A.A. and C.R.E.F. plans, which provide "fixed" or "variable" annuities built on contributions from both the employees and their institutions.

Companies Defend Performance

In a response to Mr. Schotland's article, published in the same issue of the business officers' magazine, T.I.A.A. and C.R.E.F. acknowledged that major changes in the economy over the past decade made it seem appropriate now for a "comprehensive reassessment of the future pension needs of educators and their employing institutions." But the companies defended their investment performance and said that many statements in Mr. Schotland's article were incorrect or misleading.

In broad terms, the published exchange did not raise much that was new in the debate over T.I.A.A. and C.R.E.F., which has attracted growing interest in higher education, particularly in the past two years. Some colleges and universities—Mr. Schotland placed the number at about 30—have already expanded their employees' pension options, mainly through the addition of mutual funds managed by other companies.

But while the law professor's indictment of T.I.A.A. and C.R.E.F. was largely an extension of charges that he and others had made before, its publication by higher education's chief organization of financial administrators—though without its endorsement—seemed destined to add substantial impetus to the movement to explore other retirement programs.

Further national attention to the issue is likely. Several foundations, including the Carnegie Corporation of New York and the Ford Foundation, as well as several national organizations in higher education, have been discussing plans for a comprehensive study of retirement programs for higher education.

CHRONICLE PHOTOGRAPH BY JOHN C. PHILLIPS

Roy A. Schotland of Georgetown U. says T.I.A.A.-C.R.E.F.'s "monopoly" has not served participants well.

Many of Mr. Schotland's criticisms were accompanied by data, which he said had been verified by the T.I.A.A.-C.R.E.F. staff, that cast the companies in a comparatively unfavorable light.

One set of statistics indicated that a hypothetical T.I.A.A. account had lost 42 per cent of its purchasing power from 1973 to 1982 (after adjustments for inflation), while a comparable C.R.E.F. account had lost 56 per cent in the same period.

Another table showed that C.R.E.F.'s average annual return over the past 10 years was 5 per cent, compared with 6.4 per cent for Standard & Poor's index of 500 stocks (after reductions for the costs of running an investment fund), and with a median return of 5.4 per cent for 2,800 equities funds indexed by A. G. Becker & Company, a leading performance-evaluation service.

A list of C.R.E.F.'s investments of pension funds in common stocks and securities in 1981 and 1982 begins on Page 22.

Even for the past few years alone, when C.R.E.F.'s returns were close to those of Standard & Poor's index, its earnings were outpaced by other indexes, Mr. Schotland reported. Although the retirement fund's investments have gained substantially in recent months, as has the rest of the market, he said there were "no signs that the future [for C.R.E.F.] will be more than marginally better, if that."

The past two years have been "relatively strong" for C.R.E.F., he noted, yet 54 per cent of the other pension funds outperformed it for the last 3 years, 61 per cent did so for the last 5 years, and 60 per cent for the last 10 years.

Mr. Schotland's charge that T.I.A.A. and C.R.E.F. were inflexible centered on their policy of prohibiting participants from cashing in their annuities for tax-free "rollovers" into other retirement accounts. Those restrictions, along with limits on transfers between accounts, constitute a "unique lock-in of participants," he said.

Outsiders Have 'More Incentive'

He noted that participants could transfer money from C.R.E.F. to T.I.A.A., but only between age 55 and retirement, and that at no time were they permitted to switch T.I.A.A. money into the more volatile accounts managed by C.R.E.F.

Observing that participants may freely allocate new contributions to T.I.A.A. or C.R.E.F., he argued that the companies' policies were inconsistent and that their limitations on transfers were interfering with an option that investment professionals consider "the most important."

In all, Mr. Schotland's analysis amounted to the most comprehensive public criticism of T.I.A.A. and C.R.E.F. to date.

The association of business officers did not take an official position in the dispute. It said in a preface to Mr. Schotland's article and the T.I.A.A.-C.R.E.F. response that their publication in *Business Officer* did not "signify acceptance or endorsement."

The magazine has a circulation of about 13,000, according to its editor, Jeffrey M. Sheppard. Reprints of the two articles combined cost $1, with a minimum order of $5. Write to NACUBO Order Desk, One Dupont Circle, Suite 510, Washington 20036. For prices on bulk orders, call (202) 861-2532.

Some of Mr. Schotland's findings were reported in *The Chronicle* last fall ("Competition for TIAA-CREF Pensions: Some Colleges Offering Mutual Funds," November 24). Letters to the editor from Thomas C. Edwards, chairman of T.I.A.A. and C.R.E.F., and Mr. Schotland, were published December 8.

In addition to challenging C.R.E.F.'s investment performance, Mr. Schotland's article strongly criticized T.I.A.A. and C.R.E.F. for allowing annuitants "nothing more than token participation in the governance of their funds." He also took C.R.E.F. to task for using only "internal" investment managers—a practice he labeled "almost unique in America."

No Switches to CREF

Mr. Schotland suggested that C.R.E.F.'s record would be stronger if the company used outside managers as well. Such people "tend to have more incentive to perform than inside employees," he said.

"We would do better," he added in an interview, "with a dart board and mutual funds."

The published response by T.I.A.A. and

Continued on Page 25, Column 1

FACT–FILE

CREF's Investment Record in 1981 and 1982

Following is a list of investments of pension funds by the College Retirement Equities Fund, in common stocks and securities convertible into common stocks, showing the number of shares held and the market value at the end of 1981 and 1982 calendar years.

	December 31, 1982		December 31, 1981	
	Shares	Market value	Shares	Market value
Aerospace				
Barry Wright	35,000	$ 691,250	—	—
Boeing	1,084,700	36,744,213	685,000	$15,412,500
Cessna Aircraft	395,910	9,353,374	568,510	12,365,093
E-Systems	30,000	1,507,500	—	—
Fairchild Industries	489,300	7,094,850	—	—
Flight Safety International	60,000	1,372,500	—	—
Gates Learjet	42,000	504,000	—	—
General Dynamics	308,000	10,164,000	—	—
Grumman	27,500	1,326,875	—	—
Hexcel	150,000	2,925,000	—	—
Lockheed	40,000	2,930,000	—	—
Loral	35,000	1,448,125	—	—
McDonnell Douglas	277,800	11,667,600	—	—
Northrop	35,000	2,638,125	—	—
Raytheon	733,510	32,824,572	733,510	27,414,936
Sanders Associates	17,500	1,080,625	—	—
Wyman-Gordon	35,000	892,500	—	—
Subtotals		**$125,165,109**		**$55,192,529**
Air transport				
Alaska Airlines	100,000	$ 1,325,000	—	—
AMR	250,000	6,187,500	—	—
Delta Airlines	320,000	14,160,000	300,000	$ 7,350,000
Emery Air Freight	25,000	390,625	—	—
Federal Express	160,000	11,880,000	—	—
Northwest Airlines	200,000	9,400,000	200,000	5,400,000
Southwest Airlines	30,000	1,597,500	—	—
UAL	139,300	4,631,725	—	—
U S Air	20,000	665,000	—	—
Subtotals		**$50,237,350**		**$12,750,000**
Aluminum and other nonferrous metals				
Alcan Aluminium	3,103,437	$ 86,508,306	2,935,000	$67,505,000
Aluminum Company of America	1,050,000	32,550,000	1,050,000	26,906,250
AMAX	496,992	10,809,576	215,600	10,587,100
ASARCO	96,000	2,796,000	—	—
Dome Mines	132,400	2,052,200	100,000	1,525,000
Freeport-McMoran	150,300	2,461,163	—	—
Handy & Harman	20,000	392,500	—	—
Homestake Mining	42,300	2,342,363	—	—
Inco	1,179,087	13,854,272	716,113	10,204,619
Inco Warrants	50,000	190,650	—	—
International Aluminum	37,800	722,925	—	—
Kaiser Aluminum & Chemical	1,875,384	28,374,258	1,875,984	28,608,756
Mapco	90,300	2,115,000	—	—
Martin Marietta	—	—	900,000	32,400,000
Newmont Mining	165,000	9,075,000	40,000	1,725,000
Phelps Dodge	161,500	4,542,187	122,500	4,119,063
Phibro-Salomon	725,600	35,917,200	100,000	2,600,000
Pittston	229,300	3,152,875	—	—
Reynolds Metals	856,400	21,731,150	856,400	20,553,600
$4.50 cum. conv. 2nd. pfd. B	21,000	1,155,000	21,000	1,050,000
Subtotals		**$260,742,625**		**$207,384,388**
Banks				
Allied Bancshares	73,000	$ 2,153,500	—	—
BankAmerica	1,350,000	27,168,750	1,450,000	$ 30,812,500
Barnett Banks of Florida $2.375 cum. Conv. pfd. A	70,000	1,890,000	28,500	648,375
	41,400	1,304,100	—	—
Chase Manhattan	759,978	37,238,922	400,00	21,550,000
Citicorp	1,789,000	58,142,500	2,204,000	55,651,000
Citizens and Southern Georgia	195,000	2,071,875	—	—
Continental Illinois	942,000	19,193,250	377,000	12,488,125
First Chicago	281,380	5,100,013	570,000	10,972,500
First City Bancorporation of Texas	101,000	2,222,000	—	—
First Interstate Bancorporation	396,503	12,440,282	—	—
InterFirst	167,400	3,871,125	—	—
Irving Bank	35,000	1,439,375	—	—
Manufacturers Hanover	241,000	10,031,625	586,000	20,876,250
Marine Midland Banks	25,000	468,750	—	—
Mercantile Texas	267,033	7,009,616	448,971	13,525,279
J P. Morgan	259,173	17,494,177	255,700	13,743,875
Northwest Bancorporation	138,000	3,398,250	58,000	1,377,500
Pittsburgh National	10,000	320,000	—	—
Provident National	40,000	1,265,000	—	—
Rainier Bancorporation	25,000	693,750	—	—
Republicbank	35,000	1,058,750	—	—
Seafirst	262,700	4,367,388	—	—
Security Pacific	270,000	9,990,000	200,000	8,150,000
Southwest Bancshares	66,500	1,629,250	—	—
Sun Banks of Florida	185,000	4,093,125	185,000	3,422,500
Texas Commerce Bancshares	91,000	3,401,125	—	—
U S. Bancorp	45,000	810,000	—	—
Valley National Bank of Arizona	180,000	3,150,000	—	—
Wachovia	38,800	1,236,750	—	—
Wells Fargo	345,654	9,289,451	762,584	19,445,893
Subtotals		**$253,942,699**		**$212,663,797**
Beverages				
Anheuser-Busch	98,912	$6,379,824	85,000	$3,495,625
Associated Coca-Cola Bottling	—	—	141,000	6,803,250
Brown-Forman Distillers	45,300	1,625,138	—	—
Coca-Cola	1,156,400	60,132,800	1,906,400	66,247,400
Dr. Pepper	90,000	1,136,250	—	—
General Cinema	25,000	728,125	—	—
Cum. conv. pfd. A	25,000	715,625	—	—
National Distillers & Chemical	30,000	735,000	—	—
PepsiCo	1,096,978	39,216,963	1,259,278	45,806,237
Conv. deb. 8% 04/01/96	$3,300,000*	3,399,000	—	—
Seagrams	44,000	3,245,000	—	—
Hiram Walker Resources	308,000	4,928,000	25,000	484,375
Subtotals		**$122,241,725**		**$122,836,887**
Broadcasting				
ABC	222,685	$12,832,223	448,600	$15,252,400
Capital Cities Communications	96,600	11,555,775	146,600	10,811,750
CBS	534,700	31,948,325	584,700	27,700,163
Cox Cable Communications	69,100	2,954,025	—	—
Metromedia	35,000	10,360,000	70,100	11,216,000
Multimedia	32,000	1,568,000	—	—
Oak Industries	122,000	1,753,750	—	—
Taft Broadcasting	50,000	1,981,250	200,000	6,550,000
Tele-Communications Class A	65,000	1,803,750	—	—
Subtotals		**$76,757,098**		**$71,530,313**
Business services				
H&R Block	100,00	$4,175,000	100,000	$3,800,000
Computer Sciences	—	—	10,000	131,250
A.T. Cross Class A	20,000	515,000	100,000	5,400,000
Deluxe Check Printers	137,700	5,542,425	200,000	5,625,000
John H. Harland	14,600	543,850	—	—
Kelly Services	145,000	4,495,000	100,000	4,400,000
Parker Pen	460,000	6,670,000	200,000	2,850,000
PHH Group	10,000	375,000	—	—
Purolator	117,800	5,860,550	270,000	9,720,000
Quotron Services	62,00	2,092,500	—	—
Rollins	85,000	1,275,000	—	—
Subtotals		**$31,544,325**		**$31,926,250**
Chemicals and textiles				
Air Products & Chemicals	80,000	$ 2,910,000	—	—
Allied	594,628	19,251,082	490,414	$21,516,914
Conv. deb 7.75% 6/16/05	$4,000,000*	3,070,000	$6,000,000*	4,927,500
American Cyanamid	300,000	10,425,000	157,300	4,561,700
Betz Laboratories	55,000	1,856,250	—	—
Big Three Industries	215,000	4,837,500	—	—
Cabot	80,000	1,670,000	—	—
Celanese	125,000	5,656,250	—	—
Chemed	385,000	12,401,250	—	—
Diamond Shamrock	490,000	10,228,750	400,000	10,150,000
Dow Chemical	1,888,000	48,852,000	405,000	13,310,625
E. I. DuPont de Nemours	1,465,087	52,559,996	1,150,000	30,187,500
Economics Laboratory	35,000	980,000	—	—
Engelhard	35,000	1,128,750	—	—
Ethyl	14,000	413,000	—	—
First Mississippi	165,000	1,402,500	—	—
W. R. Grace	602,000	23,101,750	200,000	9,150,000
Great Lakes Chemical	7,400	246,975	—	—
Hercules	1,100,000	30,387,500	1,100,000	24,887,500
International Minerals & Chemical	313,700	10,077,612	175,700	5,688,287
Lubrizol	151,700	2,844,375	—	—
Monsanto	791,800	60,374,750	841,800	59,031,225
Nalco Chemical	112,600	3,265,400	—	—
NCH	200,000	3,200,000	—	—
Oakite Products	17,800	391,600	—	—
Olin	94,000	2,209,000	—	—
PENNWALT	61,100	1,825,363	—	—
Petrolite	60,000	1,860,000	—	—
PPG Industries	475,000	24,581,250	425,000	16,043,750
Products Research & Chemical	61,400	882,625	—	—
Raychem	31,800	2,110,725	—	—
Rohm & Haas	10,000	780,000	—	—
Sealed Air	150,000	4,237,500	—	—
Stauffer Chemical	870,000	20,227,500	920,000	20,470,000
Sun Chemical	24,000	429,000	—	—
Union Carbide	1,070,005	56,576,514	992,944	51,012,498
Uniroyal	452,000	5,311,000	—	—
Williams	542,100	9,215,700	—	—
Witco Chemical	15,000	412,500	—	—
Subtotals		**$442,590,967**		**$311,794,615**
Communications equipment and service				
Communications Industries	25,000	$ 806,250	—	—
Communications Satellite	25,000	1,950,000	—	—
Graphic Scanning	55,000	1,017,500	—	—
Harris	300,000	11,100,000	100,000	$4,112,500
M/A-COM	320,900	7,420,812	200,000	5,050,000
MCI Communications	605,000	22,006,875	—	—
Mitel	25,000	753,125	—	—
Northern Telecom	205,314	14,371,980	—	—
Paradyne	55,000	2,062,500	—	—
Plantronics	300,000	5,925,000	300,000	4,875,000
Regency Electronics	75,000	1,256,250	—	—
ROLM	88,121	4,472,141	121,800	3,897,600
Scientific-Atlanta	190,000	3,040,000	—	—
Sykes Datatronics	121,000	1,331,000	—	—
Tie/Communications	20,000	760,000	—	—
Subtotals		**$78,273,433**		**$17,935,100**
Computer service				
Anacomp	80,000	$1,340,000	—	—
Automatic Data Processing	628,200	23,243,400	718,200	$18,044,775
Computer Sciences	203,100	3,884,288	10,000	131,250
Cullinane Database Systems	50,000	2,306,250	—	—
Electronic Data Systems	30,000	1,350,000	—	—
National Data	48,000	1,098,000	—	—
Panasophic Systems	158,200	2,728,950	158,200	1,779,750
Reynolds and Reynolds	16,000	492,000	—	—
Shared Medical Systems	20,000	1,092,500	—	—
Tera	55,000	1,347,500	—	—
Tymshare	197,200	3,549,600	157,200	4,499,850
Subtotals		**$42,432,488**		**$24,455,625**
Construction and mining equipment				
Blount	24,000	$ 468,000	—	—
BUCYRUS-ERIE	164,400	2,424,900	—	—
Caterpillar Tractor	1,702,900	68,328,863	1,702,900	$94,510,950
Conv. deb. 5.5% 6/30/00	$6,350,000*	5,643,562	$6,350,000*	6,921,500
Joy Manufacturing	160,000	3,780,000	—	—
Subtotals		**$80,645,325**		**$101,432,450**
Construction materials and homebuilders				
Ameron	17,000	$ 435,625	—	—
Armstrong World Industries	784,500	19,416,375	1,284,500	$21,515,375
Carlisle	40,000	1,290,000	—	—
Centex	20,000	830,000	—	—
Champion Home Builders	162,000	850,500	—	—
Dillingham	20,000	457,500	—	—
Ideal Basics Industries	106,000	1,987,500	—	—
Johnson Controls	55,000	1,945,625	—	—
Lone Star Industries	89,400	2,726,700	—	—
Masco	270,000	7,661,250	100,000	3,700,000
Masonite	35,000	1,671,250	—	—
National Gypsum	100,000	2,725,000	100,000	2,150,000
Owens-Corning Fiberglass	224,700	8,426,250	—	—
Perini	6,300	160,650	—	—
Pulte Home	35,000	1,356,250	—	—
Rouse	22,500	599,063	—	—
Ryan Homes	40,000	1,755,000	—	—
Scovill	45,000	1,102,500	—	—
Trane	58,000	1,711,000	—	—
Tyler	20,000	380,000	—	—
U.S. Home	50,000	1,356,250	50,000	687,500
United States Gypsum	200,000	10,100,000	300,000	10,050,000
Jim Walter	127,194	4,674,379	320,000	6,200,000
Zapata	26,000	422,500	—	—
Subtotals		**$74,041,167**		**$44,302,875**
Containers				
American Can	141,600	$4,371,900	—	—
Anchor Hocking	208,300	4,113,925	—	—
Ball	29,882	855,372	74,504	$2,505,197
Continental Group	905,000	30,770,000	905,000	29,638,750
Crown Cork & Seal	100,000	2,950,000	100,000	3,000,000
National Can	169,300	3,893,900	100,000	2,125,000
Owens-Illinois	305,000	8,616,250	305,000	9,035,625
Subtotals		**$55,571,347**		**$46,304,572**
Cosmetics				
Avon Products	1,000,000	$26,750,000	1,000,000	$30,000,000
Chesebrough-Pond's	347,600	15,642,000	357,600	12,069,000
Gillette	277,000	12,465,000	277,000	9,348,750
International Flavors & Fragrances	170,000	4,696,250	170,000	3,315,000
Noxell Class A non-voting	4,000	205,000	—	—
Revlon	880,403	26,632,191	—	—
Conv. deb 4.75% 4/15/87	—	—	$10,105,000*	8,033,475
Revlon International Finance, conv. deb. 4.75% 6/15/83	—	—	$10,995,000*	10,335,300
Richardson-Vicks	35,000	945,000	—	—
Tampax	45,000	2,261,250	—	—
Subtotals		**$89,596,691**		**$76,249,775**
Electrical equipment				
AMP	300,000	$20,437,500	300,000	$ 15,262,500
Anixter Brothers	64,700	1,488,100	—	—
Augat	369,950	10,451,087	514,950	13,002,488
Burndy	510,200	11,096,850	610,000	11,742,500
Emerson Electric	510,700	30,897,350	810,700	36,785,513
Foster Wheeler	200,400	2,605,200	—	—
Foxboro	45,000	1,597,500	—	—
General Electric	2,149,200	203,905,350	2,857,200	163,931,850
General Signal	100,000	4,487,500	50,000	1,931,250
Gould	948,600	35,572,500	1,133,600	25,647,700
Harvey Hubbell Class B	17,000	484,500	—	—
International Telephone & Telegraph	2,181,035	68,157,344	2,281,035	67,860,791
McGraw-Edison	653,000	25,630,250	586,000	21,168,000
Minnesota Mining & Manufacturing	1,220,000	91,500,000	1,220,000	66,490,000
Molex	5,000	325,000	—	—
Square D	310,300	10,627,775	310,300	8,959,912
Thomas & Betts	117,400	6,163,500	267,400	15,509,200
Westinghouse Electric	760,200	29,552,775	340,400	8,680,200
Subtotals		**$554,980,081**		**$456,571,904**
Electronics				
Advanced Micro Devices	46,500	$1,168,312	—	—
Analog Devices	14,500	400,562	—	—

* Par value

BEST AVAILABLE COPY

	December 31, 1982		December 31, 1981	
	Shares	Market value	Shares	Market value
Electronics (Continued)				
Applied Materials	35,000	796,250	—	—
Avantek	65,000	1,381,250	—	—
Avnet	58,000	3,480,000	8,000	369,000
AVX	48,500	1,042,750	48,[illegible]	672,937
CTS	10,000	302,500	—	—
Daniel Industries	66,000	709,500	—	—
Esterline	33,500	690,938	—	—
John Fluke Manufacturing	145,000	3,733,750	50,000	962,500
GCA	250,300	5,444,025	—	—
General Instrument	355,000	17,661,250	73,000	3,230,250
GenRad	150,000	4,725,000	200,000	2,775,000
Hewlett-Packard	1,211,200	88,417,600	1,451,200	57,503,800
Intel	918,750	35,601,563	918,750	20,671,875
Motorola	445,000	38,715,000	150,000	8,662,500
National Semiconductor	515,850	11,348,700	515,850	9,865,631
Perkin-Elmer	442,700	12,561,612	100,000	2,700,000
Spectra-Physics	200,000	4,400,000	22,300	473,875
Tektronix	354,100	20,449,275	450,000	24,750,000
Teradyne	177,400	5,055,900	88,700	3,104,500
Texas Instruments	224,000	30,156,000	224,000	18,032,000
Tracor	38,750	1,123,750	—	—
Varian Associates	10,000	647,500	—	—
Veeco Instruments	31,700	630,038	—	—
Subtotals		**$290,643,025**		**$153,773,868**
Financial Companies				
Alleghany	15,000	$ 744,375	—	—
American Express	674,877	43,360,848	375,000	$16,546,875
Warrants	3,750	78,281	—	—
Avco	20,200	573,175	—	—
Baldwin-United	65,800	2,039,800	—	—
Beneficial	680,300	16,667,350	200,000	4,025,000
Foothill Group	300,000	2,250,000	—	—
Gelco	55,000	1,148,125	—	—
Household International	340,400	7,829,200	—	—
Subtotals		**$74,691,154**		**$20,571,875**
Food and related products				
Amfac	84,000	$2,184,000	—	—
Amstar	19,000	477,375	—	—
Anderson, Clayton	49,800	1,332,150	—	—
Archer Daniels Midland	594,090	12,772,935	100,000	$ 1,925,000
Beatrice Foods	966,700	22,717,450	1,116,700	20,100,600
Beatrice Foods Overseas Finance, N.V. Conv. deb 6.25%, 8/01/91	$400,000*	404,000	$400,000*	341,000
Conv. deb 7.25%, 11/01/90	$1,150,000*	1,489,250	$1,150,000*	1,127,000
Carnation	30,000	1,327,500	—	—
Consolidated Foods	393,000	17,734,125	617,300	19,444,950
CPC International	20,000	832,500	—	—
Dart & Kraft	767,100	52,546,350	914,800	46,426,100
Dekalb Agresearch	137,000	2,294,750	—	—
Esmark	118,750	6,857,813	—	—
General Foods	980,000	38,832,500	911,100	28,927,425
General Mills	100,000	4,875,000	100,000	3,587,500
Gerber Products	75,000	1,846,875	—	—
H.J. Heinz	200,000	8,075,000	—	—
Hershey Foods	50,000	2,818,750	50,000	1,800,000
International Multifoods	40,000	1,220,000	—	—
Kellogg	353,300	9,406,612	331,200	7,452,000
Lance	42,500	1,094,375	—	—
McCormick	10,000	266,250	—	—
Nabisco Brands	313,211	11,510,504	25,000	778,125
Newhall Land & Farming	15,000	540,000	—	—
Norton Simon	245,800	5,899,200	—	—
Pillsbury	55,000	2,750,000	55,000	2,179,375
Pioneer-Hi-Bred International	95,000	2,232,500	—	—
Quaker Oats	167,600	7,185,850	212,600	7,600,450
Ralston Purina	1,047,000	18,322,500	1,132,000	13,584,000
Conv. deb. 5.75% 04/01/00	$1,300,000*	1,534,000	—	—
A.E. Staley Manufacturing	148,000	2,812,000	—	—
Wilson Foods	34,000	327,250	—	—
Subtotals		**$244,519,364**		**$155,273,525**
Forest products				
Boise Cascade	523,900	$20,432,100	262,700	$ 8,997,475
Champion International	873,700	20,750,375	473,700	9,355,575
$4.60 cum. conv. pfd. C	38,500	1,944,250	38,500	1,554,438
Evans Products	63,146	528,848	38,246	669,305
Georgia-Pacific	866,000	22,732,500	180,000	3,622,500
Pacific Lumber	109,000	2,466,125	—	—
Potlatch	74,000	2,719,500	—	—
Trus Joist	139,500	3,975,750	31,000	620,000
Weyerhaeuser	875,300	31,510,800	210,700	6,110,300
Willamette Industries	110,000	4,152,500	—	—
Subtotals		**$111,212,748**		**$30,929,593**
Health Care				
Abbott Laboratories	566,300	$ 21,944,125	287,500	$ 7,762,500
American Home Products	1,657,000	74,150,750	2,357,000	86,030,500
American Hospital Supply	327,900	13,197,975	100,000	3,837,500
American Medical International	245,900	9,006,087	—	—
American Sterilizer	34,000	501,500	—	—
C.R. Bard	79,800	2,413,950	—	—
Bausch & Lomb	35,000	1,601,250	—	—
Baxter Travenol Laboratories	554,000	26,799,750	379,000	12,686,500
Becton Dickinson	157,100	6,676,750	—	—
Bergen Brunswig	65,000	2,136,875	—	—
Bristol-Meyers	485,000	32,616,250	485,000	25,765,625
Centocor	4,825	86,850	—	—
Community Psychiatric Centers	15,900	574,387	—	—
Comprehensive Care	60,000	1,125,000	—	—
Cooper Laboratories	7,700	508,200	—	—
Flow General	60,000	712,500	—	—
Foremost-McKesson	113,000	4,548,250	213,000	7,827,750
Glasrock Medical Services	40,000	950,000	—	—
Health care (Continued)				
Hazleton Laboratories	72,500	1,341,250	—	—
Hillenbrand Industrial	39,000	1,491,750	—	—
Hospital Corporation of America	405,900	22,527,450	225,900	7,737,075
Humana	244,100	10,984,500	—	—
IMS International	15,000	320,625	—	—
Intermedics	90,000	1,293,750	—	—
Johnson & Johnson	1,597,500	79,275,938	1,597,500	59,307,188
Key Pharmaceuticals	70,200	2,193,750	—	—
Eli Lilly	657,000	37,777,500	632,000	35,392,000
Medtronic	20,000	1,072,500	—	—
Merck & Co.	625,000	52,890,625	575,000	48,731,250
Millipore	50,000	1,412,500	—	—
National Medical Care	70,000	700,000	—	—
National Medical Enterprises	283,500	8,221,500	—	—
Pall	160,000	5,760,000	—	—
Pfizer	572,800	39,451,600	428,900	22,838,925
Rorer Group	30,000	735,000	—	—
Schering-Plough	940,000	37,012,500	1,200,000	33,600,000
G.D. Searle	50,000	2,068,750	—	—
SmithKline Beckman	927,900	64,025,100	326,500	22,079,562
Squibb	407,800	18,045,150	395,800	12,962,450
Sterling Drug	299,400	6,736,500	100,000	2,225,000
Sybron	7,900	129,362	—	—
Syntex	85,000	4,080,000	—	—
United States Surgical	70,000	1,400,000	—	—
Upjohn	375,700	17,403,088	315,700	16,968,875
Warner-Lambert	1,100,000	31,075,000	1,400,000	31,150,000
Subtotals		**$648,996,137**		**$436,912,700**
Household durable goods				
Black & Decker Manufacturing	311,300	$ 5,636,875	—	—
Hoover	140,000	1,575,000	—	—
Maytag	155,200	5,839,400	155,200	$ 3,957,600
Pitney	35,000	1,780,625	—	—
RCA	1,997,100	44,934,750	2,762,600	50,417,450
Singer	255,000	4,845,000	455,000	6,313,125
Stanley Works	75,000	1,837,500	—	—
Thomas Industries	16,695	308,858	—	—
Wells-Gardner Electronics	5,000	40,625	—	—
Whirlpool	607,800	26,591,250	1,550,000	39,331,250
White Consolidated Industries	237,000	8,532,000	400,000	10,900,000
Subtotals		**$101,921,883**		**$110,919,425**
Household products				
Clorox	50,000	$1,237,500	—	—
Colgate-Palmolive	1,067,000	20,939,875	1,317,000	$ 22,059,750
Lenox	25,000	1,168,750	—	—
Old Republic International	12,500	296,875	—	—
Procter & Gamble	577,200	68,253,900	877,200	70,504,950
Purex Industries	—	—	350,000	8,443,750
Shaklee	20,000	795,000	—	—
Unilever N.V.	355,000	26,003,750	450,000	26,775,000
Subtotals		**$118,695,650**		**$127,783,450**
Insurance				
Aetna Life & Casualty	1,329,050	$48,344,194	1,799,950	$ 73,197,800
Alexander & Alexander Services	335,000	8,500,625	200,000	5,100,000
American General $3.25 cum. conv. pfd. B	49,100	2,718,912	—	—
American International Group	25,700	1,400,650	—	—
American National Insurance	404,999	31,994,921	389,999	25,252,435
Capital Holdings	15,000	228,750	—	—
Chubb	96,800	3,412,200	—	—
Cigna	100,000	4,962,500	100,000	4,600,000
Colonial Penn Group	960,554	42,504,515	—	—
Continental	115,300	1,902,450	—	—
Corroon & Black	1,620,000	47,992,500	2,340,000	61,717,500
Farmers Group	200,000	5,300,000	250,000	5,312,500
Gulf United	90,000	3,172,500	—	—
Frank B. Hall	5,000	138,125	—	—
INA	25,000	718,750	200,000	5,975,000
Fred S. James	—	—	826,523	36,470,327
Jefferson-Pilot	—	—	169,200	3,933,900
Kemper	70,000	2,065,000	—	—
Lincoln National	20,000	755,000	—	—
Marsh & McLennan	120,000	5,370,000	—	—
Mission Insurance Group	103,480	4,268,550	103,480	3,414,480
Ohio Casualty	435,000	12,180,000	150,000	5,381,250
Provident Life & Accident	47,000	2,015,125	—	—
Rollins Burdick Hunter	20,000	1,010,000	—	—
St. Paul	—	—	108,500	2,332,750
Southland Financial	374,000	22,860,750	632,000	30,889,000
Stewart Information Services	430,000	7,740,000	550,000	11,137,500
Transamerica	25,000	962,500	—	—
Travelers	905,000	21,154,375	425,000	9,934,375
U.S. Fidelity & Guaranty	2,323,760	56,060,710	2,068,680	90,763,335
USLIFE	573,500	26,022,562	311,500	12,888,313
Subtotals	79,100	1,819,300	—	—
		$367,575,484		**$410,847,700**
Leisure-time				
AMF	157,000	$2,570,875	—	—
Bally Manufacturing	75,000	1,753,125	—	—
Warrants	2,500	20,937	—	—
Briggs & Stratton	400,000	14,400,000	300,000	$ 7,125,000
Coachman Industries	60,000	1,455,000	—	—
Walt Disney Productions	520,000	32,890,000	900,000	47,025,000
Josten's	33,700	842,500	—	—
MCA	200,000	14,175,000	200,000	8,275,000
Mattel	60,000	997,500	—	—
$2.50 cum. conv. pfd.	34,600	1,310,475	—	—
Outboard Marine	70,000	2,021,250	—	—
Warner Communications	566,266	18,969,911	841,266	46,164,472
Warrants	19,324	246,381	19,325	381,669
Leisure-time (Continued)				
Winnebago Industries	45,000	596,250	—	—
Subtotals		**$92,249,204**		**$108,971,141**
Machinery–farm, industrial, and related industry				
ACF Industries	345,204	$11,305,431	—	—
Acme-Cleveland	35,000	634,375	—	—
AMSTED Industries	465,800	10,946,300	406,000	$ 14,260,750
Baldor Electric	20,000	440,000	—	—
Browning-Ferris Industries	137,000	7,312,375	100,000	3,212,500
Chromalloy American	172,800	1,598,400	—	—
Cincinnati Milacron	143,900	3,651,462	—	—
Clark Equipment	558,000	14,717,250	489,000	13,203,000
Cooper Industries	345,300	9,884,213	—	—
Cross & Trecker	72,000	1,458,000	—	—
Deere	900,091	26,552,685	900,091	31,953,231
Diebold	20,000	1,490,000	—	—
Dover	100,000	3,062,500	—	—
Emhart	7,700	350,350	—	—
Ex-Cell-O	118,300	3,075,800	—	—
Figgie International	7,000	154,000	—	—
FMC	647,200	20,872,200	547,200	14,022,000
$2.25 cum. conv. pfd.	38,900	1,531,687	38,900	1,235,075
GATX	65,000	1,673,750	—	—
Goulds Pumps	41,500	736,625	—	—
Hyster	214,000	8,185,500	134,000	4,740,250
Ingersoll-Rand	301,000	11,889,500	68,000	3,842,000
Keystone International	40,000	830,000	—	—
Manitowoc	10,000	180,000	—	—
Midland-Ross	120,000	1,965,000	—	—
Norton	10,351	337,701	—	—
Omark Industries	330,000	6,806,250	300,000	5,625,000
Parker-Hannifin	105,000	2,244,375	—	—
Peabody International	74,000	619,750	—	—
Ransburg	55,000	1,031,250	—	—
Raymond International	34,000	442,000	—	—
Research-Cottrell	42,100	620,975	—	—
Rexnord	39,700	456,550	—	—
SCA Services	45,000	798,750	—	—
Signode	—	—	212,700	7,[illegible]70,600
SPS Technologies	29,000	406,000	—	—
Stewart-Warner	44,000	1,100,000	—	—
Timken	86,900	4,410,175	—	—
Trinity Industries	113,500	1,418,750	—	—
Unimation	—	—	19,600	392,000
U.S. Industries	55,000	591,250	—	—
Waste Management	224,700	12,021,450	—	—
Wheelabrator-Frye	135,100	6,552,350	—	—
Subtotals		**$184,354,979**		**$100,156,406**
Motor vehicles, equipment, and tires				
Armstrong Rubber	19,000	$579,500	—	—
Bandag	164,000	6,929,000	273,000	$ 6,859,125
Bendix	—	—	73	4,289
$4.04 cum. conv. pfd. B	—	—	30,400	1,470,600
Borg-Warner	79,000	2,992,125	—	—
Chrysler	164,600	2,921,650	—	—
Cummins Engine	371,500	18,110,625	321,500	11,413,250
Dana	295,000	10,251,250	200,000	5,900,000
Eaton	777,200	24,870,400	777,200	24,773,250
Echlin Manufacturing	100,000	1,950,000	—	—
Federal-Mogul	47,100	1,413,000	—	—
Firestone Tire & Rubber	859,800	15,906,300	859,800	10,854,975
Ford Motor	1,967,250	76,476,844	1,972,250	33,035,187
General Motors	3,575,400	223,015,575	4,101,000	157,888,500
General Tire & Rubber	102,000	2,996,250	100,000	2,150,000
B.F. Goodrich	25,000	803,125	—	—
Goodyear Tire & Rubber	731,202	25,592,070	1,425,000	27,075,000
PACCAR	26,000	2,138,500	—	—
Safety-Kleen	45,000	1,237,500	—	—
Sigmaform	25,000	350,000	—	—
Snap-On Tools	5,000	135,000	—	—
Stanadyne	100,000	3,400,000	100,000	3,875,000
Subaru of America	15,000	990,000	—	—
Sun Electric	300,000	3,862,500	109,900	1,346,275
Subtotals		**$426,921,214**		**$286,645,451**
Multi-industry				
Alco Standard	55,000	$1,650,000	—	—
American Standard	222,700	6,681,000	—	—
Bangor Punta	24,000	444,000	—	—
Bob Evans Farms	36,000	1,296,000	—	—
Colt Industries	220,000	6,820,000	180,000	$ 10,080,000
Crane	16,700	402,888	—	—
Dravo	46,576	576,378	—	—
Greyhound	136,000	2,346,000	—	—
Gulf & Western Industries	300,800	5,038,400	—	—
Kidde	98,100	2,305,350	—	—
Lear Seigler	580,000	20,227,500	100,000	2,900,000
Litton Industries	674,164	33,792,471	241,842	13,633,843
LTV	268,000	3,048,500	—	—
Martin Marietta	100,000	4,375,000	—	—
Monogram Industries	6,300	275,625	—	—
Moore McCormack Resources	124,500	2,801,250	—	—
Morrison-Knudson	15,000	363,750	—	—
Northwest Industries	128,100	4,595,587	—	—
Ogden	262,100	7,338,800	162,100	4,234,863
Overseas Shipholding Group	665,900	10,321,450	250,000	4,062,500
Penn Central	208,450	5,497,869	602,300	24,844,875
Rockwell International	870,100	36,979,250	870,100	28,495,775
Signal	1,039,300	25,982,500	150,000	3,806,250
Sunstrand	5,000	220,000	—	—
Teledyne	139,000	17,983,125	100,000	13,850,000
Textron	265,000	6,293,750	—	—
Todd Shipyards	35,000	1,085,000	—	—
TRW	202,000	13,660,250	—	—
Tyco Laboratories	425,700	7,449,750	213,300	2,639,587
United Technologies	105,700	5,985,262	299,800	12,516,850
$3.875 cum. Conv. pfd. C	194,800	13,782,100	39,500	2,054,000
Whittaker	25,000	631,250	—	—
Subtotals		**$250,250,055**		**$123,118,343**

* Par value

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FACT–FILE

	December 31, 1982		December 31, 1981	
	Shares	Market value	Shares	Market value
Office equipment				
Amdahl	415,000	$12,346,250	37,000	$ 1,091,500
Apple Computer	305,000	9,111,875	150,000	3,318,750
Applied Magnetics	51,500	1,049,312	—	—
Burroughs	751,200	31,362,600	751,200	25,540,800
CADO Systems	240,000	2,520,000	180,000	2,655,000
Commodore International	40,500	2,683,125	—	—
Computer & Communications Technology	270,000	3,982,500	—	—
Computervision	277,000	8,552,375	—	—
Control Data	565,000	20,975,625	—	—
CPT	455,000	8,133,125	131,000	2,358,000
Cray Research	164,000	6,334,500	69,000	2,518,500
Data General	283,100	11,253,225	349,800	18,891,750
Datapoint	155,000	2,848,125	150,000	7,687,500
Dataproducts	51,000	1,836,000	—	—
Digital Equipment	679,800	67,640,100	654,800	56,640,200
Docutel	50,000	1,012,500	—	—
Evans & Sutherland Computer	37,000	1,563,250	—	—
Floating Point Systems	54,000	1,410,750	—	—
Honeywell	301,700	25,757,638	100,000	6,987,500
International Business Machines	5,695,700	548,211,125	5,695,700	323,942,938
ISC Systems	205,000	3,792,500	—	—
Lanier Business Products	455,000	8,360,625	—	—
Management Assistance	57,000	598,500	—	—
Mohawk Data Sciences	34,000	510,000	—	—
NBI	170,000	6,290,000	—	—
NCR	416,100	35,784,600	531,100	23,169,237
ONYX + IMI	300,000	3,300,000	50,000	600,000
Pitney Bowes	211,100	9,657,825	—	—
$2.12 cum. conv. pfd.	95,000	4,346,250	—	—
Prime Computer	90,000	3,116,250	270,000	6,378,750
Quantum	32,500	682,500	—	—
Sperry	683,669	22,988,370	410,309	14,463,392
Storage Technology	824,300	17,516,375	150,000	5,250,000
Tandem Computers	160,000	4,060,000	200,000	5,550,000
Tandon	20,000	630,000	—	—
Telex	30,000	660,000	—	—
Triad Systems	233,000	4,834,750	30,000	975,000
Verbatim	40,000	1,135,000	—	—
Wang Laboratories	1,133,400	33,435,300	473,000	15,727,250
Xerox	755,000	28,218,125	930,000	37,665,000
Subtotals		**$958,500,970**		**$561,321,067**
Paper products				
Albany International	190,000	$ 5,605,000	—	—
Consolidated Papers	15,000	480,000	—	—
Crown Zellerbach	720,000	21,150,000	820,000	$ 23,780,000
Federal Paper Board	18,000	510,750	—	—
Great Northern Nekoosa	173,000	6,206,375	108,000	3,969,000
Hammermill Paper	46,000	1,437,500	—	—
International Paper	1,850,214	89,504,102	2,119,914	82,941,635
James River	104,700	3,965,513	92,700	1,830,825
Longview Fibre	110,000	2,145,000	—	—
Mead	503,500	9,440,625	200,000	4,600,000
St. Regis Paper	1,325,300	32,635,512	1,357,900	42,773,850
Sonoco Products	35,000	1,146,250	—	—
Union Camp	844,000	50,851,000	1,009,000	50,071,625
Westvaco	614,250	15,893,719	614,250	14,511,656
Subtotals		**$240,971,348**		**$224,478,591**
Petroleum–domestic				
Adobe Oil & Gas	71,000	$ 1,073,875	—	—
Amerada Hess	142,000	3,550,000	—	—
Apache	108,500	1,139,250	—	—
Ashland Oil	390,000	11,310,000	100,000	$ 3,125,000
Atlantic Richfield	1,734,600	72,853,200	1,599,600	74,981,250
Belco Petroleum	74,000	1,748,250	—	—
Charter	124,000	1,364,000	—	—
Cities Service				
Zero coup. 12/03/85	$1,049,400*	717,527	550,000	25,300,000
Zero coup. 12/03/86	$1,258,000*	743,792	—	—
Zero coup. 12/03/87	$1,397,100*	733,477	—	—
Zero coup. 12/03/88	$1,887,100*	851,554	—	—
Zero coup. 12/03/89	$2,411,800*	946,631	—	—
Coastal	75,000	1,471,875	—	—
Dorchester Gas	10,800	120,150	—	—
Energy Reserves Group	415,000	1,452,500	—	—
Enterra	17,100	380,475	—	—
Equity Oil	40,600	299,425	—	—
General American Oil	198,954	8,629,630	—	—
Getty Oil	662,300	32,121,550	543,300	35,110,763
Hadson Petroleum	223,000	1,059,250	—	—
Hamilton Brothers Petroleum	112,500	1,054,688	—	—
Kerr-McGee	129,000	3,708,750	—	—
Kirby Exploration	18,100	142,538	—	—
Louisiana Land & Exploration	221,400	4,677,075	—	—
McRae Consolidated Oil & Gas	15,000	151,875	—	—
Mesa Offshore Trust	518,300	1,036,600	—	—
Mesa Petroleum	518,300	6,090,025	—	—
Mitchell Energy & Development	150,000	2,306,250	—	—
Mountain Fuel Supply	100,200	3,519,525	100,200	3,206,400
Murphy Oil	100,000	2,325,000	—	—
Natomas	166,000	2,697,500	—	—
Noble Affiliates	131,000	1,866,750	—	—
Occidental Petroleum	162,300	3,205,425	—	—
$15.50 cum. Conv. pfd. I	129,602	11,761,382	—	—
Oceaneering International	150,000	1,781,250	—	—
Pennzoil	128,000	4,496,000	—	—
Phillips Petroleum	1,579,000	51,514,875	1,565,000	63,382,500
Pioneer	146,500	3,003,250	—	—
Pogo Producing	5,000	106,250	—	—
Quaker State Oil Refining	24,000	378,000	—	—
Sabine	43,000	1,574,875	—	—
Shell Oil	2,184,500	80,826,500	2,103,000	92,532,000
Sigmor	10,000	171,250	—	—
Southland Royalty	165,800	2,507,725	—	—
Standard Oil of Indiana	2,582,600	102,658,350	2,305,000	119,860,000

	December 31, 1982		December 31, 1981	
	Shares	Market value	Shares	Market value
Petroleum-domestic (Continued)				
Standard Oil of Ohio	1,743,000	62,094,375	1,020,000	42,330,000
Sun	999,000	31,343,625	850,000	38,675,000
Superior Oil	1,007,000	28,951,250	895,000	33,003,125
Tesoro Petroleum	75,015	1,265,878	—	—
Texas International	130,000	1,040,000	—	—
Tosco	65,000	723,125	—	—
Union Oil of California	1,270,000	33,813,750	905,000	34,050,625
Universal Resources	157,800	927,075	—	—
Woods Petroleum	55,000	1,203,125	—	—
Subtotals		**$597,490,322**		**$565,556,663**
Petroleum–international				
British Petroleum ADR	179,600	$ 3,389,950	179,600	$ 4,265,500
ENSTAR	355,100	5,415,275	—	—
Exxon	7,995,000	237,851,250	8,770,000	274,062,500
Gulf Oil	2,460,400	73,196,900	2,883,400	102,000,275
Mobil	3,216,000	80,802,000	3,100,000	74,787,500
Royal Dutch Petroleum 10 Fl. Ord. Shs.	3,297,400	114,172,475	3,322,400	115,868,700
Standard Oil of California	2,623,300	83,945,600	2,243,800	96,202,925
Texaco	2,564,000	79,804,500	2,650,000	87,450,000
Subtotals		**$678,577,950**		**$754,637,400**
Petroleum services				
Baker International	569,900	$ 12,822,750	362,900	$ 13,790,200
Tom Brown	130,000	1,121,250	—	—
Cameron Iron Works	93,000	1,953,000	—	—
Combustion Engineering	31,500	1,035,563	—	—
Crutcher Resources	165,900	1,140,562	—	—
Dresser Industries	679,000	13,410,250	477,000	15,860,250
Fluor	423,200	8,252,400	200,000	6,000,000
Galveston-Houston	52,500	905,625	—	—
Gearhart Industries	220,000	3,355,000	—	—
Global Marine	225,000	2,081,250	—	—
Halliburton	944,000	33,394,000	800,000	41,700,000
Helmerich & Payne	95,000	1,852,500	—	—
Hughes Tool	473,000	10,465,125	295,000	11,836,875
Kaneb Services	98,600	1,479,000	—	—
McDermott	44,139	904,849	400,000	15,200,000
McDermott International	379,861	7,692,185	—	—
Newpark Resources	271,000	1,727,625	—	—
NL Industries	487,100	8,950,462	300,000	11,925,000
Ocean Drillin & Exploration	68,000	1,428,000	—	—
Parker Drilling	167,000	1,690,875	—	—
Parsons	135,000	2,851,875	—	—
Petrolane	181,500	2,518,313	—	—
Petroleum Equipment Tools	48,000	408,000	—	—
Petroleum Helicopters	38,000	308,750	—	—
Production Operators	30,000	187,500	—	—
Reading & Bates	172,900	2,334,150	—	—
Regal International	32,500	52,813	—	—
Rowan Companies	130,000	1,348,750	—	—
Sage Energy	89,100	690,525	—	—
Schlumberger	3,250,012	151,531,809	3,250,012	181,594,420
SEDCO	297,000	8,687,250	825,000	30,525,000
Smith International	70,000	1,977,500	—	—
Tidewater	83,700	2,155,275	—	—
Unit Drilling and Exploration	50,000	325,000	—	—
Varco International	70,000	411,250	—	—
Weatherford International	54,700	553,838	—	—
Western of North America	367,400	3,260,675	—	—
Subtotals		**$295,265,544**		**$328,431,745**
Photography				
Bell & Howell	25,000	$750,000	—	—
Eastman Kodak	1,388,000	119,368,000	1,500,000	$106,687,500
Fotomat	63,500	341,312	—	—
Polaroid	162,000	4,090,500	—	—
Subtotals		**$124,549,812**		**$106,687,500**
Publishing				
American Greetings Class A	10,000	$ 377,500	—	—
Bowne	37,600	592,200	—	—
Commerce Clearing House	30,000	1,860,000	—	—
Dow Jones	187,200	12,308,400	287,200	$ 14,216,400
Dun & Bradstreet	222,300	21,896,550	352,300	22,194,900
Gannett	540,000	34,222,500	675,000	24,384,375
Harte-Hanks Communications	29,500	1,180,000	—	—
Knight-Ridder Newspapers	220,000	10,890,000	100,000	3,025,000
McGraw-Hill	260,000	19,565,000	585,000	30,273,750
Simplicity Pattern	176,100	1,342,762	—	—
Time	720,917	37,577,799	591,212	22,613,859
$4.50 cum. conv. Pfd. C	—	—	168,000	11,010,550
Times Mirror	431,300	26,902,338	680,000	31,110,000
Washington Post	40,000	2,210,000	—	—
Subtotals		**$170,925,049**		**$147,818,284**
Railroads				
Burlington Northern	185,400	$ 9,849,375	—	—
Chicago & North Western Transportation	33,000	717,750	—	—
CSX	662,544	33,872,562	566,620	$ 32,863,960
Florida East Coast Railway	47,900	904,112	—	—
Katy Industries	43,000	521,375	—	—
Missouri Pacific	—	—	451,300	37,006,600
Norfolk Southern	755,904	41,385,744	358,700	18,607,562
Santa Fe Industries	933,000	20,992,500	102,000	2,154,750
Southern Pacific	390,900	14,170,125	390,900	15,929,175
Southern Railway	—	—	177,983	16,952,881
Union Pacific	921,430	43,307,210	210,000	10,920,000
$7.25 cum. Conv.pfd. A	124,107	12,969,182	—	—
Subtotals		**$178,689,935**		**$134,434,928**

	December 31, 1982		December 31, 1981	
	Shares	Market value	Shares	Market value
Restaurants and hotels				
Chart House	45,000	$ 1,113,750	—	—
Church's Fried Chicken	232,900	8,267,950	164,900	$4,761,488
Collins Food International	17,200	346,150	—	—
Dennys	90,000	2,868,750	—	—
Hilton Hotels	211,000	9,442,250	55,000	1,330,000
Holiday Inns	210,400	7,705,900	—	—
Host International	—	—	48,000	1,368,000
Jerrico	25,000	640,625	—	—
Luby's Cafeteria	4,000	145,500	—	—
Marriott	127,700	7,470,450	—	—
McDonald's	585,000	35,319,375	335,000	54,588,125
Prime Motor Inns	55,000	1,258,125	—	—
Wendy's International	45,000	658,125	—	—
Subtotals		**$75,236,950**		**$82,047,613**
Retail food				
Albertson's	40,000	$ 1,890,000	588,600	$15,597,900
American Stores	76,520	4,973,800	181,000	5,339,500
Circle K	400,000	5,750,000	100,000	1,175,000
Dillon	288,678	9,598,544	503,848	11,273,599
Great Atlantic & Pacific Tea	—	—	816,000	3,162,000
Jewel	182,000	9,100,000	200,000	7,575,000
Kroger	246,900	9,721,688	1,056,700	27,474,200
Lucky Stores	780,147	13,652,572	780,147	10,239,429
Safeway Stores	106,500	4,872,375	456,500	12,097,250
Southland	169,664	6,574,480	394,664	12,530,582
Conv. deb. 5% 7/15/87	$1,805,000*	2,026,112	$1,805,000*	1,624,500
Super Valu Stores	118,500	3,066,188	—	—
Subtotals		**$71,225,759**		**$108,088,960**
Retail trade				
Allied Stores	500,000	$19,062,500	500,000	$ 13,062,500
Ames Department Stores	10,000	335,000	—	—
Associated Dry Goods	75,000	3,337,500	—	—
Best Products	57,500	1,437,500	237,500	4,151,875
Carter Hawley Hale Stores	187,929	2,936,391	—	—
Color Tile	55,000	1,354,375	—	—
Dayton Hudson	600,000	33,075,000	700,000	21,000,000
Jack Eckerd	224,600	5,530,775	99,600	2,427,750
Edison Brothers Stores	40,000	1,095,000	—	—
Federated Department Stores	340,900	16,107,525	122,600	4,413,600
General Nutrition	20,000	545,000	—	—
Gordon Jewelry Class A	391,650	7,196,569	311,650	5,298,050
K mart	871,900	19,181,800	696,900	10,976,175
Levitz Furniture	6,000	264,000	—	—
The Limited	30,000	720,000	—	—
Longs Drug Stores	187,400	6,676,125	200,000	5,775,000
Lowe's	73,000	2,527,625	—	—
R. H. Macy	310,746	18,955,506	252,023	13,357,219
May Department Stores	227,000	10,697,375	200,000	5,000,000
Melville	50,000	3,537,500	—	—
Mercantile Stores	17,000	1,967,750	—	—
Miller-Wohl	45,000	1,226,250	—	—
Modern Merchandising	—	—	252,600	2,368,125
Nordstrom	20,000	970,000	—	—
Payless Cashways	35,500	1,557,563	—	—
J. C. Penney	563,100	27,239,962	100,000	2,862,500
Petrie Stores	55,000	1,416,250	—	—
Sears, Roebuck	1,852,000	55,791,500	1,132,000	18,253,500
Service Merchandise	101,000	2,828,000	151,000	1,774,250
Tandy	839,000	42,579,250	386,500	13,044,375
Toys "R" Us	90,000	3,667,500	—	—
United States Shoe	30,000	1,642,250	—	—
Wal-Mart Stores	154,900	7,725,637	—	—
Conv. deb 9.50% 12/1/06	$1,950,000*	3,763,500	—	—
F.W. Woolworth	150,000	3,881,250		
Zale	5,000	103,125	—	—
Subtotals		**$310,936,853**		**$123,764,919**
Savings & loan				
H. F. Ahmanson	465,000	$12,903,750	425,000	$ 6,428,125
Federal National Mortgage Association	350,400	8,584,800	350,400	2,978,400
Financial Corporation of America	300,000	7,762,500	150,000	3,450,000
First Charter Financial	231,700	4,141,638	—	—
First Columbia Financial	20,000	247,500	—	—
FN Financial of California	275,000	4,743,750	—	—
Gibraltar Financial of California	142,700	1,409,162	—	—
Golden West Financial	229,200	3,581,250	—	—
Great Western Financial	345,900	9,644,375	575,000	8,337,500
Imperial of America	100,000	1,300,000	—	—
Subtotals		**$ 54,118,725**		**$ 21,194,025**
Steel				
Allegheny International	21,000	$ 585,375	—	—
Armco	511,700	8,379,088	—	—
Bethlehem Steel	737,000	14,187,250	570,000	$ 13,252,500
Carpenter Technology	60,000	2,407,500	—	—
CBI Industries	43,300	1,672,462	—	—
Cleveland-Cliffs Iron	95,000	1,733,750	—	—
Copperweld	11,700	190,125	—	—
Florida Steel	250,000	4,218,750	—	—
Hanna Mining	40,000	730,000	—	—
Inland Steel	606,000	15,756,000	306,000	7,152,750
Interlake	5,102	169,641	—	—
Kaiser Steel	71,000	1,464,375	—	—
Kennametal	47,300	1,359,875	—	—
Koppers	177,700	2,843,200	—	—
National Steel	501,700	8,779,750	300,000	6,937,500
Nucor	191,000	11,937,500	—	—
Park-Ohio Industries	30,000	427,500	—	—
Quanex	55,000	378,125	—	—
Republic Steel	390,000	6,093,750	150,000	3,675,000
United States Steel	1,142,000	23,982,000	1,000,000	29,875,000
Worthington Industries	285,000	6,697,500	200,000	4,400,000
Subtotals		**$113,993,518**		**$ 65,292,750**

Continued on Following Page

Pensions Continued from Page 21

C.R.E.F. focused initially on Mr. Schotland's criticisms of their governance, which they portrayed as enabling participants to express their views and help select trustees.

On the subject of using their own people to manage C.R.E.F. investments, the companies argued that there was "little evidence to suggest that one method is better than the other in terms of performance." They defended C.R.E.F.'s performance principally in terms of its strategy—"to avoid the extremes of conservatism or of high risk."

In discussing whether participants should be able to receive lump-sum payments, or "cash-outs," at retirement, the companies said Mr. Schotland had implied that rollovers were "materially different" from cash-outs, but that they were not.

Moreover, they said, giving participants "freedom to write one's own ticket may be in step with the times, but whether it will prove to be good pension practice for the long pull remains to be seen."

Mr. Schotland insisted last week that T.I.A.A. and C.R.E.F. had "ignored the facts" about lump-sum payments and rollovers, and that they were separate issues. He said he favored letting participants switch to other investment vehicles for continued retirement income, but not to have immediate access to all of the cash for other purposes.

The six-page article from T.I.A.A. and C.R.E.F. was not signed. A spokesman, calling it a "concerted" staff effort, declined to comment on substantive questions.

'Significant Questions'

David Z. Robinson, executive vice-president of the Carnegie Corporation of New York, said Mr. Schotland's article had raised "significant questions about pension options that should be there." He added that the foundation, which helped establish the Teachers Insurance Annuity Association in 1918 and has helped finance it over the years, would decide by the end of the summer whether to back a new study.

Mr. Robinson said the foundation's interest in such a study included questions about the purposes and adequacy of college retirement plans in the light of legislative and economic changes in recent years. He said there was a need for new advice and "ground rules," both for individuals and their institutions.

The article from T.I.A.A. and C.R.E.F. said the companies had been in touch with some of the other foundations and organizations that have been considering the idea of a national study of retirement programs.

Among the "basic questions" to be addressed, the companies indicated, are whether retirees should be able to receive lump-sum payments in lieu of retirement income, what approach should be used to determine pension benefits, and whether to retain immediate vesting and portability in retirement accounts.

Mr. Schotland and other critics of T.I.A.A. and C.R.E.F. have called for a study of similar issues.

The National Education Association announced last week that Mr. Schotland and Mr. Edwards of T.I.A.A. and C.R.E.F. would be featured in a symposium it is sponsoring here on June 17, just before the annual meeting of the American Association of University Professors. Irving J. Spitzberg, Jr., general secretary of the A.A.U.P., said it strongly endorsed plans for a national study.

"What we need and what we don't get from the debate" in the business officers' magazine, he said, "is a careful study of the retirement needs of faculty." The issue, he said, is to determine "what is required for a faculty member to retire and live a decent life."

D. Francis Finn, executive vice-president of the business officers' association, said he was optimistic that a study would be made, but cautioned that "there is no one easy answer on how to handle all this."

COMPUTERS

Quantity vs. Quality; Job Tips

"Informational clutter" is a danger in the computerization of higher education, warns a report at Brown University, explaining the university's plan to equip every student, faculty member, administrator, and staff member with a "personal computer work station" by 1989.

"Clearly there are some intellectual dangers to the ability to accumulate and store larger quantities of information and ideas, and to be able to produce written material quickly," the report says.

"These are drawbacks of informational clutter—of quantity of data and opinion replacing quality of thinking.

"In fields where the amount of tangential or ill-conceived scholarly production is proliferating, the work station presents an insidious temptation to over-produce. Scholars may yield to the inclination to produce work that is largely a collection of information and ideas, rather than a well-thought-out project.

"Against such drawbacks must be weighed the possibilities for engaging in even richer syntheses and creative scholarship than one may be capable of now."

A minor in computer science is often recommended to students by professors and administrators, according to a new book, *The Fast Track to the Top Jobs in Computer Careers*, published by GD/Pedigree Books.

"Soon," says the author, Peter Muller, "computers will be used in virtually every career," and there will be a definite advantage for the person who combines a minor in computer science with a major in another field such as business, economics, engineering, or the natural sciences.

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The full text of 18 journals of the American Chemical Society will be available in a computerized file beginning June 1. In a joint announcement with Bibliographic Retrieval Services, Inc., the chemical society said the journal texts from 1980 until the present will be available for computerized search, display, and printing. The file will be updated every two weeks. Fees for use of the file will range from $66 to $85 per hour, plus telephone-line charges.

—JACK MAGARRELL

FACT-FILE—Continued

	December 31, 1982		December 31, 1981	
	Shares	Market value	Shares	Market value
Textile & apparel				
Angelica	15,000	$ 517,500	—	—
Burlington Industries	100,000	2,800,000	—	—
Cluett, Peabody	65,000	1,381,250	—	—
Guilford Mills	25,000	512,500	—	—
INTERCO	75,000	4,575,000	—	—
Levi Strauss	105,000	4,042,500	—	—
M. Lowenstein	10,100	371,175	—	—
NIKE Class B	53,000	2,391,625	—	—
Oxford Industries	11,200	245,000	—	—
Warnaco	33,100	1,485,362	—	—
Wolverine World Wide	40,000	835,000	—	—
Subtotals		**$19,156,912**		—
Tobacco				
American Brands	139,400	$ 6,394,975	139,400	$ 5,122,950
Philip Morris	859,500	51,570,000	700,000	34,125,000
R. J. Reynolds	669,751	34,157,301	571,700	26,941,363
$11.50 cum. conv. Pfd. B	3,125	326,953	—	—
United States Tobacco	10,000	703,750	—	—
Subtotals		**$93,152,979**		**$66,189,313**
Trucking and related industries				
Consolidated Freightways	116,500	$ 5,825,000	521,500	$20,599,250
Leaseway Transportation	322,500	12,577,500	587,500	15,495,312
RLC	450,000	4,050,000	324,400	3,933,350
Roadway Services	50,000	2,862,500	—	—
Ryder System	376,849	18,936,662	747,048	21,944,535
Transway International	25,000	668,750	—	—
Yellow Freight System	125,500	2,384,500	125,500	1,976,625
Subtotals		**$47,304,912**		**$63,949,072**
Utilities—electric				
Allegheny Power System	150,000	$3,562,500	600,000	$ 9,675,000
American Electric Power	1,383,253	24,552,741	776,426	12,616,923
Arizona Public Service	180,000	4,387,500	450,000	8,718,750
Baltimore Gas & Electric	99,213	2,852,374	—	—
Boston Edison	8,500	221,000	—	—
Carolina Power & Light	175,464	3,772,476	293,073	5,934,728
Central & South West	712,000	12,371,000	700,000	9,712,500
Central Illinois Public Service	50,000	775,000	—	—
Central Louisiana Electric	15,000	219,375	—	—
Cincinnati Gas & Electric	130,000	2,421,250	235,100	3,702,825
Cleveland Electric Illuminating	425,000	8,393,750	750,000	12,000,000
Commonwealth Edison	1,023,078	25,832,719	818,022	16,258,187
Consolidated Edison Co. of New York	310,000	6,355,000	—	—
Consumers Power	965,000	18,938,125	1,870,000	32,023,750
Dayton Power and Light	100,000	1,725,000	—	—
Detroit Edison	1,352,121	17,746,588	1,168,127	13,287,451
Utilities—electric				
Duke Power	850,000	19,762,500	850,000	17,531,250
Duquesne Light	255,000	3,761,250	—	—
El Paso Electric	149,000	1,825,250	—	—
Florida Power & Light	371,828	13,478,765	236,435	6,945,278
Florida Progress	110,000	2,090,000	—	—
Gulf States Utilities	970,000	12,973,750	—	—
Houston Industries	190,000	3,800,000	—	—
Illinois Power	187,539	4,454,051	112,627	2,322,932
Kansas Gas and Electric	164,700	3,026,362	—	—
Long Island Lighting	261,000	4,469,625	—	—
Middle South Utilities	1,728,563	25,712,375	2,132,004	26,916,551
Minnesota Power	9,000	213,750	—	—
New England Electric System	105,646	3,512,729	—	—
New York State Electric & Gas	99,700	2,156,013	—	—
Niagara Mohawk Power	650,000	10,156,250	400,000	4,950,000
Northeast Utilities	520,000	6,305,000	—	—
Northern Indiana Public Service	230,000	2,903,750	—	—
Northern States Power	168,600	5,058,000	—	—
Ohio Edison	874,247	12,239,374	761,285	8,849,938
Oklahoma Gas & Electric	50,000	968,750	—	—
Pacific Gas & Electric	991,470	27,885,094	1,110,000	23,310,000
Pacific Power & Light	190,000	4,013,750	—	—
Pennsylvania Power & Light	273,223	5,737,683	200,000	3,425,000
Philadelphia Electric	813,000	13,821,000	400,000	5,450,000
Potomac Electric Power	165,000	3,011,250	—	—
Public Service Co. of Colorado	210,000	3,648,750	—	—
Public Service Co. of Indiana	391,745	9,744,657	100,000	2,025,000
Public Service Co. of New Mexico	162,000	4,212,000	—	—
Public Service Co. Electric & Gas	733,291	17,049,016	998,086	17,965,548
Puget Sound Power & Light	153,200	2,355,450	—	—
San Diego Gas & Electric	210,000	3,622,500	—	—
Southern California Edison	785,654	27,596,097	1,162,165	33,412,244
Southern	1,792,323	28,005,047	1,863,346	22,360,152
Southwestern Public Service	170,000	2,868,750	—	—
Texas Utilities	843,615	19,824,952	407,250	7,992,281
Toledo Edison	84,000	1,764,000	—	—
Union Electric	276,000	3,795,000	—	—
United Illuminating	9,000	229,500	—	—
Utah Power & Light	200,000	4,200,000	—	—
Virginia Electric and Power	790,000	11,356,250	200,000	2,350,000
Wisconsin Electric Power	256,090	5,826,048	—	—
Subtotals		**$473,560,736**		**$309,736,288**
Utilities—gas and pipeline				
American Natural Resources	555,923	$18,958,421	514,135	$ 21,593,670
Arkla	127,900	2,238,250	—	—
Columbia Gas System	8,000	231,000	—	—
Consolidated Natural Gas	780,000	18,427,500	400,000	20,300,000
Utilities—gas and pipeline (Continued)				
El Paso	500,000	11,375,000	100,000	2,487,500
ENSERCH	437,200	8,306,800	50,000	1,262,500
Equitable Gas	28,600	686,400	—	—
Houston Natural Gas	202,800	7,250,100	—	—
InterNorth	9,000	240,750	—	—
Midcon	335,992	8,651,794	216,792	5,961,780
NICOR	29,000	801,125	—	—
Northwest Energy	16,000	254,000	—	—
ONEOK	14,576	388,086	—	—
Pacific Gas Transmission	263,700	4,087,350	100,090	2,837,500
Pacific Lighting	96,600	2,741,025	—	—
Panhandle Eastern	814,131	21,370,939	935,451	34,377,824
Peoples Energy	110,698	1,093,143	216,792	1,734,336
Primark	105,552	2,586,024	—	—
Sonat	250,000	6,625,000	—	—
Southern Union	74,000	1,248,750	—	—
Tenneco	1,694,888	54,871,999	900,000	30,150,000
Texas Eastern	410,400	23,803,200	289,300	15,188,250
Texas Gas Transmission	600,000	15,975,000	600,000	21,000,000
Texas Oil & Gas	764,100	25,979,400	375,000	13,125,000
Transco Energy	90,000	2,306,250	—	—
United Energy Resources	809,700	21,718,987	982,200	40,515,750
Valero Energy	359,300	8,713,025	100,000	2,287,500
Washington Gas Light	60,000	1,522,500	—	—
Subtotals		**$272,451,818**		**$212,821,610**
Utilities—telephone				
American Telephone & Telegraph	7,711,556	$457,873,638	7,280,543	$ 427,731,954
Bell Canada	1,472,042	29,072,829	1,635,417	26,779,955
Centel	124,501	4,653,225	301,000	9,970,625
Continental Telecom	1,914,902	33,032,059	2,221,891	37,494,427
General Telephone & Electronics	1,585,100	65,781,650	2,050,100	65,603,200
Rochester Telephone	65,000	1,746,875	—	—
Southern New England Telephone	30,000	1,792,500	—	—
United Telecommunications	1,281,634	26,754,110	1,457,970	31,710,863
Subtotals		**$620,706,886**		**$599,291,024**
Foreign investments, by country				
Australia	—	$42,518,506	—	$34,463,044
Belgium	—	11,969,013	—	8,432,138
Canada	—	77,826,833	—	43,723,559
France	—	22,238,522	—	23,227,963
Hong Kong	—	13,082,747	—	19,495,173
Japan	—	345,801,053	—	236,834,277
Mexico	—	578,125	—	2,386,875
Netherlands	—	23,654,599	—	15,474,713
Singapore/Malaysia	—	18,693,815	—	15,074,905
Spain	—	9,161,431	—	10,503,779
Sweden	—	15,532,535	—	9,068,495
Switzerland	—	39,613,418	—	28,155,666
United Kingdom	—	150,442,942	—	97,136,490
West Germany	—	58,098,961	—	39,606,690
Subtotals		**$829,212,502**		**$583,583,767**
Total market value		**$11,475,822,783**		**$8,911,889,501**

SOURCE: COLLEGE RETIREMENT EQUITIES FUND

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News Summary

Articles on inside pages

The people of Lake Wobegon, Minn., traveled east recently when Garrison Keillor brought his radio show, "A Prairie Home Companion" to Middlebury College. Story on Page 7.

Walter F. Mondale, the leading Democratic candidate for President, has proposed an $11-billion plan to aid education. Story on Page 15.

A civil-rights group asked the House to slash the budget of the Justice Department's civil-rights division because it believes the agency does little good. Story on Page 17.

A Senate committee has approved a bill that would provide nearly $1-billion over two years for programs to train science and mathematics teachers. Story on Page 17.

The State Department will bar visas to foreign visitors who it suspects may illegally obtain technical information useful to adversaries of the U.S. Story on Page 21.

A nationwide study of the academic performance of college athletes will be commissioned by the National Collegiate Athletic Association. Story on Page 23.

Faculty members are discovering there is much to be gained by teaching their students library skills—and enlisting librarians' help in doing it. Story on Page 27.

In his new book, *The First Urban Christians,* Wayne A. Meeks describes the social world of the Apostle Paul. Story on Page 29.

Student groups in France have called for national demonstrations on May 24 to protest proposed higher-education reforms. Story on Page 25.

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Michigan to Study State Campuses; Some Could Shut

By GLEN MACNOW

DETROIT

Anticipating a decade of declining enrollments and shrinking resources, Michigan's lawmakers have called for a re-examination of the state college system that could lead to the closing of some institutions.

The Michigan House of Representatives voted last month to establish a panel of experts to study the future of the state's 15 public universities and 29 community colleges. The Senate is expected to adopt a similar measure this month.

Many observers familiar with legislators' views say the study panel could be the first step toward the closing of several colleges or the establishment of statewide coordination of the now autonomous system, the fifth largest in the United States.

"We expanded as if there were no tomorrow during Michigan's growth period of the 1950's and 60's," said Sen. Jack Faxon, a Democrat from Southfield and chairman of the education appropriations subcommittee. "Now that the state is in a long period of of retrenchment, it's wise for us to re-examine higher education. I don't think we can afford to support a system as large as the one we have built."

Indeed, Michigan has had trouble maintaining its 450,000-student system in recent years. As the automobile-based economy slumped and its unemployment rate rose, education took the brunt of the cuts in the state budget. Former Gov. William Milli-

Continued on Page 16, Column 1

Mastery of 6 Basic Subjects and 6 Intellectual Skills Urged for College-Bound Students

College Board outlines the abilities they need for success

By BEVERLY T. WATKINS

WASHINGTON

High-school students who intend to go to college should master a comprehensive body of knowledge that includes six basic academic subjects, the College Board said last week. The subjects are English, mathematics, science, social studies, foreign language, and the arts.

To study effectively in any of those areas, college-bound students should also develop a group of six specific intellectual skills and abilities, the board said in a report released here. They include reading, writing, speaking and listening, mathematical ability, reasoning, and studying.

The report, "Academic Preparation for College: What Students Need to Know and Be Able to Do," was prepared by the board as part of the Educational EQuality [sic] Project, a 10-year effort to develop and implement a national standard for academic achievement in secondary education. It is intended as a guide for high schools to use in evaluating and revising their academic standards and curricula.

Excerpts from the College Board's report begin on Page 14.

At a press conference here, the College Board's president, George H. Hanford, said the recommendations offered a way to address "at least one of the most important problems of educational quality" documented in recent weeks by the National Commission on Excellence in Education and other groups.

He called the board's report "the first

Continued on Page 14, Column 1

U.S., Universities, and Industry Advised to Coordinate Efforts

By MALCOLM G. SCULLY

WASHINGTON

Warning that the United States has lost its lead in the global economic competition, a group of academic and business leaders this week called for a coordinated effort by universities, private companies, and the federal government to "rebuild the American economy and strengthen our educational system."

In a report released here, the group said, "Our society must develop a consensus that industrial competitiveness on a global scale is crucial to our social and economic well-being.

"Unless we rebuild the American economy and strengthen our educational sys-

Continued on Page 10, Column 1

COACH CUTS SCHOLARSHIPS

'I Guess I Understand It,' Says Player Who Lost Aid

By N. SCOTT VANCE

Steven Snyder, a freshman at the University of North Dakota, says he is still surprised that his institution "treats college athletics so much like a business."

The realization initially hit him about three weeks ago, when he and three of his basketball teammates had the amount of their athletic scholarships cut by half.

Their coach, David Gunther, told them he was reducing their financial aid because they had performed poorly on the court this past season—the coach's first losing season in his 13 years at the university.

Another basketball player, a junior, had his entire scholarship revoked for the same reason. The university's athletic director has assured him, however, that he will get aid from other sources to complete his senior year and to continue in his role as a standout on the university's baseball team.

In explaining his decision to reduce the players' aid, Mr. Gunther said in an interview that athletic scholarships should be "earned" by players, not just given to them for four years regardless of their performance on the playing court or field.

The five players involved, he said, didn't do their part to help the team and therefore didn't deserve the full scholarships they had been receiving.

Mr. Gunther said that in evaluating his players' overall perform-

Continued on Page 24, Column 1

POP AND CIRCUMSTANCE

DAVID GRUNFELD

One stuck cork at Syracuse U.'s commencement didn't hold up the bubbly celebration.

Thousands of Mail-Order Degrees Sold, FBI Finds

CHARLOTTE, N.C.

A three-year review by the Federal Bureau of Investigation of the activities of "mail-order universities" has revealed that they have sold "thousands" of degrees—including bachelor's, master's, and doctoral degrees in every discipline.

A spokesman for the agency said many educators were among those purchasing advanced degrees, apparently because they hoped to collect the salary increases that such degrees often bring to those who possess them.

The F.B.I. investigation, headquartered here, has thus far led the agency to seek search warrants with which to examine the records of 38 "institutions" in eight states, the spokesman said. Subpoenas have been issued for the records of other concerns, most of them operated out of post-office boxes or through mail-forwarding services.

The eight states are Arizona, Arkansas, California, Florida, New York, North Carolina, Ohio, and South Carolina. The agency has identified neither the institutions under investigation nor any of those suspected of aquiring degrees from them.

The investigation began in 1980, when someone told F.B.I. officials here that he had recently purchased a college degree and a transcript to back it up. Since then, one agent has been working full time on the case, and has been assisted by other agents who have written away for degrees.

The spokesman said the agents here had acquired a total of 23 degrees, including bachelor's and master's, Ph.D.'s, M.D.'s, and at least one doctoral degree in theology. "Whatever field you can think of, we have a degree in it," the spokesman said.

Prices for the degrees ranged from between $200 and $400 for bachelor's degrees to $2,000 for a combined master's and doctoral degree.

The F.B.I. will attempt to prosecute the operators of the degree services for wire fraud and mail fraud, the spokesman said. The agency itself will not try to prosecute all those who have purchased fake degrees, he said, because to do so "would tie up the federal courts here for years."

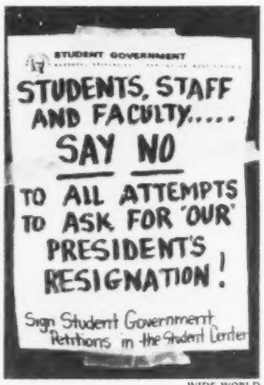
Instead, the F.B.I. will provide officials in each state with the names of its residents—including those in teaching posts—who are thought to have acquired their degrees by purchasing them.

bearing the signatures of about 75 faculty members and 1,500 students at the university.

Organizers of the petition drive contend that the institution's conservative orientation and links to the Reagan Administration make it highly partisan and threaten the independence of the university. The faculty petitions were submitted to the Faculty Senate, which is expected to discuss the issue May 26. The student petitions were given to the university's Board of Trustees, which has not indicated whether it will take up the matter.

Meanwhile, a petition drive against an inquiry has been started by other faculty members. One organizer, Alphonse Juilland, who is chairman of the department of French and Italian, termed the call for an inquiry a "liberal witch hunt."

Marshall U. President Quits Under Pressure


STUDENT GOVERNMENT
STUDENTS, STAFF AND FACULTY.....
SAY NO
TO ALL ATTEMPTS TO ASK FOR 'OUR' PRESIDENT'S RESIGNATION!
Sign Student Government Petitions in the Student Center

WIDE WORLD

The president of Marshall University resigned last week despite widespread support from students and faculty members. Robert B. Hayes, who became president in 1974, had been under pressure from the West Virginia Board of Regents to step down for several months, in part because of a projected $150,000 deficit in the athletic department budget. An audit of the department's books is now under way.

Support for Mr. Hayes, which a spokesman called "overwhelming," continued to grow until he announced his resignation May 11.

Supporters urged students and faculty members to sign petitions, at left, to send to the regents. Graduates and their guests at the recent commencement gave the president a standing ovation.

Mr. Hayes, whose action becomes effective August 31, will remain at Marshall as a professor of education.

Earthquake Damages California College

West Hills Community College, which sustained $1.7-million in damage from the earthquake that hit Coalinga, Cal., on May 2, reopened last week after being closed for four days. In the quake's aftermath, the campus was used as the main disaster-relief center by the Red Cross, California National Guard, and other agencies. No one at the college was injured.

The college's theater building has been closed indefinitely because of structural damage. Part of the campus was cordoned off temporarily because of fears of an explosion from chemical spillage in college laboratories.

University Travel Agency Wins Court Approval

The University of Minnesota has the right to run a student travel agency and sell airline tickets to students planning overseas travel, a county court has decided.

The decision came in a suit filed against the university and the International Study and Travel Association, a nonprofit student organization, by two commercial travel agencies, which charged that the university had exceeded its authority and was engaging in unfair competition.

The university argued that the student travel agency, on the Minneapolis campus, was an integral part of the institution's effort to promote international education.

The student travel agency has been licensed by the International Air Transport Association since 1981 to sell airline tickets.

Notes

Governor Allen I. Olson of North Dakota has signed a measure that will, on July 1, change the name of Minot State College to Dakota Northwestern University. . . . The National Governors' Association and Duke University have established a cooperative program at Duke for the study of issues of state government. The Governors Center will grant fellowships to former governors and state officials and offer graduate training for service in state government. . . . Six buildings and 10½ acres of land used by the U.S. Bureau of Mines is being purchased by Carnegie-Mellon University for $5.8-million. The bureau complex, which adjoins the university campus, will allow Carnegie-Mellon to expand its educational and research facilities.

CORRECTION

Due to errors in computation, some figures in the survey of college resources were incorrect (*The Chronicle*, May 4). The correct figures for new students at private research universities, public two-year institutions, and all institutions are in the tables below.

Staff members	1981-82 Number of staff members	1981-82 New students (a) per staff member
PROFESSIONAL EMPLOYEES		
Public research universities	9.5	544
Private research universities	4.0	365
Public comprehensive colleges (b)	8.7	167
Private comprehensive colleges (b)	6.9	115
Selective liberal-arts colleges	5.9	90
Other liberal-arts colleges	4.8	81
Public 2-year institutions	3.8	1,504
Private 2-year institutions	3.5	89
All institutions	**6.0**	**648**
CLERICAL STAFF		
Public research universities	15.5	332
Private research universities	6.2	236
Public comprehensive colleges (b)	11.6	125
Private comprehensive colleges (b)	4.9	162
Selective liberal-arts colleges	5.7	94
Other liberal-arts colleges	2.4	163
Public 2-year institutions	8.7	625
Private 2-year institutions	1.7	184
All institutions	**8.8**	**336**
STUDENT STAFF (c)		
Public research universities	4.4	1,175
Private research universities	1.9	763
Public comprehensive colleges (b)	8.3	186
Private comprehensive colleges (b)	3.8	211
Selective liberal-arts colleges	2.1	252
Other liberal-arts colleges	1.9	215
Public 2-year institutions	1.2	4,647
Private 2-year institutions	1.6	200
All institutions	**3.8**	**1,901**

(a) A new student is defined as a freshman or a transfer.
(b) Institutions with more than 1,500 students, a liberal-arts program, and at least one professional program.

Volunteers	1981-82 Number of volunteers	1981-82 New students (a) per staff member
STUDENT VOLUNTEERS (c)		
Public research universities	1.0	5,791
Private research universities	2.2	669
Public comprehensive colleges (b)	14.0	103
Private comprehensive colleges (b)	1.2	612
Selective liberal-arts colleges	1.0	520
Other liberal-arts colleges	0.9	528
Public 2-year institutions	4.5	1,208
Private 2-year institutions	—	—
All institutions	**6.1**	**1,110**
FACULTY & STAFF VOLUNTEERS (d)		
Public research universities	1.0	4,225
Private research universities	1.4	1,010
Public comprehensive colleges (b)	3.4	378
Private comprehensive colleges (b)	1.2	610
Selective liberal-arts colleges	0.5	1,018
Other liberal-arts colleges	0.8	971
Public 2-year institutions	0.9	5,797
Private 2-year institutions	0.5	692
All institutions	**1.6**	**2,814**
ALUMNI VOLUNTEERS (d)		
Public research universities	0.6	8,944
Private research universities	2.2	668
Public comprehensive colleges (b)	2.8	568
Private comprehensive colleges (b)	2.0	345
Selective liberal-arts colleges	2.9	185
Other liberal-arts colleges	0.9	702
Public 2-year institutions	—	—
Private 2-year institutions	0.6	666
All institutions	**1.2**	**1,192**

(c) One full-time equivalent is 1,400 hours annually.
(d) One full-time equivalent is 1,900 hours annually.
— Insufficient data.

SOURCE: SURVEY FOR THE CHRONICLE BY JOHN MINTER ASSOCIATES

Notes on . . . Science

What's DNA? According to a recent nationwide survey, 63 per cent of the 15,000 Americans who were asked that question said they simply "don't know."

About 2 per cent of the public said they thought DNA was some kind of "poison," according to a report of the survey by Cambridge Reports, Inc. of Cambridge, Mass., while 27 per cent began to make the proper connections, saying they thought it had something to do with genes, molecules, or chemicals in the body.

Only 2 per cent gave the correct answer: DNA is an acronym for deoxyribonucleic acid, a molecule shaped in a double helix that can make copies of itself and pass on biological traits to succeeding generations.

▪

A biologist at Harvard University has found evidence of the earliest major mass extinction of life on earth.

Andrew H. Knoll, an associate professor of biology, said he and Gonzalo Vidal, a professor of geology at Lund University in Sweden, had found evidence of the widespread disappearance of many types of one-celled algae about 650 million years ago. It occurred in several regions, including Scandinavia, the Baltic region, and eastern Greenland, the scientists told the National Science Foundation, which supported their research.

Before their discovery, the oldest known major extinction was one that occurred some 450 million years ago, when many species of shell-covered marine animals disappeared.

Mr. Knoll said the researchers had not yet determined the cause of the earliest mass extinction, when as many as 70 per cent of the known algal species disappeared. However, he said, they speculate that "it may have been related to environmental changes during a widespread glacial period that occurred at about the same time."

▪

The National Academy of Sciences has announced plans to publish a quarterly journal devoted to issues of science policy .

A spokesman said the journal, which will be published by the academy's press, would attempt, through essays written by scientists, to "provide insights of the science and technology community to policy makers in and out of government."

The academy has not yet selected a name or editor for the new publication.

▪

The first academic conference detailing the impact on society of the second industrial revolution—that created by developments in microelectronics—was held last week at the University of California at Santa Cruz.

The conference was sponsored by the Silicon Valley Research Project, a group of faculty members and students at Santa Cruz. The group plans to publish an edited volume of the conference proceedings for scholars, legislators, and the public.

—KIM McDONALD